

SCHOOL-TO-WORK INTERMEDIARY PROJECT

MAY 2002

DATA AND EVIDENCE GATHERING: STRATEGIES AND CHALLENGES

By Hilary Kopp

During public debates over the efficacy of school-to-career, issues of evidence and data took center stage. Did school-to-career make a difference for young people? For which young people? How should progress in building school-to-career systems and programs be measured? Frustration with the difficulty of demonstrating gains in academic achievement became a frequent topic of discussion by practitioners and policymakers alike, even as proponents argued that other measures, such as employer evaluations or rates for college-going and attendance, could provide important evidence of student and system progress.

For local intermediary organizations that perform key connecting and brokering functions linking schools, employers, and young people, data and evidence debates are even more complicated. How does an organization that convenes key stakeholders measure its effectiveness? If an intermediary helps set up internships, should its usefulness be measured by student achievement, by employer and school satisfaction, or by other measures of value-added? On what evidence should an intermediary judge its own work—and why?

When the School-to-Work Intermediary Project began in October 1998 most members of the emerging Intermediary Network were engaged only marginally in thinking about the best ways to measure their own effectiveness.¹ They were working to get school-to-career programs and activities up and running. If they focused on data and evidence, it was typically in service of supporting the community's or region's school-to-career system, not of improving their own effectiveness or demonstrating their value to outside observers, such as funders, political leaders, or critics.

Over the years, Network members' views on data and evidence have changed markedly. Many began to see credible evidence as a critical element of both their approaches to program improvement and their strategies for winning and sustaining support and resources. Network members have taken a hard look at how best to use data and

evidence in support of intermediary activities and initiatives.

This issue brief:

- Describes the activities Network members have pursued together during the past three years that addressed data and evidence concerns; and
- Draws lessons from the efforts of Network members, as a group and individually, as they have sought to design and implement data and evidence-gathering systems that could help them make their case to others and improve their performance over time.

COLLECTIVE EFFORTS TO ADDRESS EVIDENCE OF INTERMEDIARY VALUE

In its second year, the Intermediary Network created a Data Work Group, a volunteer subset of Network members who were interested in addressing data and evidence issues facing their organizations. This group shared data col-

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lection tools and strategies and discussed design and implementation challenges.

The Data Work Group identified several promising strategies in use or in development by organizations in and outside the Network. For example, BaySCAN in California had asked its Bay Area local partnerships to fill out a common data form identifying the numbers of schools, students, teachers, and workforce partners involved in school-to-career activities. BaySCAN made each of these data sheets available on its Web site, www.bayscan.org. Workforce Silicon Valley, a partner of BaySCAN and also of the recently formed statewide group CalSCAN, developed a template for assigning dollar equivalents to the in-kind contributions of business partners, yielding estimates of the cost to employers of activities ranging from job shadows to teacher training, board membership, and student internships. This template enabled organizations to generate rough "order-of-magnitude" calculations of the business investment in school-to-career efforts. To access the template, go to: www.CalSCAN.org.

At the same time, the Data Working Group began to address practical ways for intermediary organizations to assess their own activities and present evidence of their effectiveness. New Ways to Work, on behalf of the Intermediary Project, created self-

assessment tools and encouraged organizations to use these to define goals and progress toward goals related to the four functions of local intermediaries: convening partners, providing or brokering services, measuring progress and ensuring quality, and advocating for favorable policies.²

With support from Jobs for the Future, the Data Work Group began to define what it thought would be useful measures of intermediary effectiveness. A complex matrix of indicators was developed to capture the richness and value of effective intermediaries across the four intermediary functions. However, the complexity of initial drafts of such a matrix made it clear that ambition outstripped the ability of any intermediary in the Network to collect all the desired data.

In response to this dilemma, Network members agreed upon a more modest list of useful data elements at a June 2001 Network meeting. The list (see box) was a composite of evidence that has been collected by various Network members, including the Boston Private Industry Council. It identified five broad categories where Network members felt evidence could bolster the case for intermediary support:

- *The level of activity*, defined as numbers of students, schools, and workplaces participating;
- *The level of satisfaction of key customers*, including employers, schools, and students;
- *The dollar value of wages of students participating in work-based learning*, either actual or imputed;
- *Educational outcomes*, with an eye toward measures beyond scores on standardized tests; and
- *Employment success*, particularly for those seeking full- or part-time employment after graduation.

Network members recognized that only some of the measures proposed for collection directly captured the effect of an intermediary. Customer service surveys could be fielded to stakeholders convened or served by the intermediary. The number of placements and other indications of level of activity might be

Proposed Measures for Demonstrating Intermediary Value

Level of Activity (total numbers and change over time)

- Youth served
- Placements in work-based learning
- Employers involved
- Schools participating

Customer Satisfaction

- Surveys of students, teachers, and employers

Leveraging of Resources

- Wages paid or cash value of imputed wages for students in work-based learning

Educational Success

- College-going rate
- Graduation/Drop-out rate
- Pass rate for state assessment test (initial rate and rate after retest)

Employment Success

- Quality of employment after graduation (e.g., wages, benefits, training opportunities)

attributable to the intermediaries' work, but such measures could also capture the efforts of schools or other local players. The same problem reappears when considering student outcome data. What role did the intermediary play in affecting student academic achievement, attendance, or college-going?

In fall 2001, Jobs for the Future surveyed the 50 Intermediary Network members to ascertain the kinds of data and evidence each organization was collecting in some form or another. Over 20 sites responded to the survey. Many reported collecting a good deal of input data (i.e., the level of activity and involvement of different partners). Fewer collected meaningful data on student outcomes, particularly on post-graduation educational or employment outcomes.

Later in the fall, Network members discussed the potential for a collective effort that would result in evidence collated across multiple sites, giving a picture of the reach and scope of Network activities nationwide. At that meeting, the methodological challenges (e.g., defining what was being measured in ways that did not compare apples to oranges) appeared too daunting to many Network members, particularly those with modest resources for evidence gathering and analysis.

In the end, participants in the meeting agreed to collect three simple kinds of data: the number of students involved; the number of schools involved; and the number of employers involved. Thirteen intermediaries supplied this information (see Appendix). The data shows the range of communities in which the intermediaries are working (from single, large districts to many school districts within a region) and the variety of school-to-career activities they support.

LESSONS ON THE CHALLENGES AND STRATEGIES FOR GATHERING EVIDENCE: EXPERIENCES OF A SAMPLE OF INTERMEDIARIES

In spring 2002, staff from 12 intermediary organizations active in the Data Working Group were interviewed at length concerning

their data collection and evaluation practices.

These organizations have:

- Made varying degrees of progress in implementing data and evidence-gathering systems;
- Developed several successful strategies for identifying relevant evidence and collecting useful data; and
- Encountered a number of significant challenges.

Data and evidence collection is a growing priority.

In general, data collection and the need for evidence have taken on a higher priority for school-to-career intermediaries over the years. Yet identifying appropriate outcomes to measure is not straightforward when so much of an intermediary's work focuses on developing new partnerships and contributing to changes in how schools educate children. Thinking through the logic of an intermediary's value-added and how those results can be measured are challenging evaluation questions.

Over the past five or more years, many Network members have evolved from counting the number of participants (e.g., students, teachers, employers) in different activities to assessing, through systematic surveys and other feedback mechanisms, the quality of the intermediaries' direct interventions and support for partners. Some organizations have started to look at the impact of their activities on young people's school performance, despite the difficulties of measuring broader community impacts. And as federal School-to-Work funding ends, securing evidence on the larger community impact has proven increasingly important to securing sustainable funding.

Staff of the intermediary organizations interviewed indicated that limited resources for evaluation and lack of agreement on appropriate measures have made it difficult to clearly define and gather evidence. Most intermediaries have multiple funders who want data and evidence on different things. Some intermediaries work with multiple local partnerships that are interested in different outcomes. Several intermediary staff indicated that they felt

there was little guidance from their state and/or federal funders concerning what indicators they should be collecting data on. Some states have been inconsistent about the data they require or unable to share data with local or regional partnerships in a usable form.

This lack of consensus is not surprising. Local partnerships have had significant autonomy, and each intermediary plays a somewhat unique role in its community. Each intermediary has had to figure out data and evidence collection largely on its own. Given challenges—of cost, complexity, and, frequently, insufficient capacity to design and implement efficient evidence-gathering systems—data collection does not always get to the top of the “to-do” list until a funder demands more evidence. Unfortunately, retroactive data collection and analysis are even more difficult than building in data-gathering procedures from the outset.

Some intermediaries have successfully built in data collection and feedback mechanisms when creating new programs and initiatives. Barbara Duffy, executive director of MY TURN, Inc., in Brockton, Massachusetts, believes that intermediaries need to get creative about how to collect information and feedback on what they are doing as soon as possible: “If you wait five years to do any evaluation, you won’t be around by the end of the five years.” MY TURN program staff are responsible for tracking student participation and outcomes and for designing questionnaires to get feedback from participants on their experience with the program and what could be changed. MY TURN has also tapped into local college and university resources to get low-cost evaluation work done by third parties.

Richard Tulikangas of Linking Learning to Life in Burlington, Vermont, believes that “what gets measured, gets done.” He has made an effort to articulate what the organization should be measuring on an ongoing basis to assure that the intermediary contributes to these outcomes. Linking Learning to Life holds quarterly “action research days” to enable staff to step back from their day-to-day work to

look at data, discuss progress in the work, look at progress against their strategic plan, and determine what additional information or data they might need to collect.

Both of these intermediaries have created a culture of reflection that supports ongoing evaluation. Evaluations can make people nervous, and negative feedback is not always easy to handle. Yet when the director consistently models openness to feedback and a desire to know how the organization is doing, staff members seem to follow this lead. It helps if staff responsibilities include some data collection: this makes it clear that getting information on how the work is going is part of the job.

Two common approaches are tracking participation levels and getting “customer” feedback through surveys and focus groups.

Intermediary Network members often undertake and support a mix of activities and initiatives. The ease with which an intermediary can collect data and evidence on levels of participation, “customer satisfaction,” and outcomes relates directly to the types of activities the organization undertakes. Intermediaries that do not have youth as direct “clients” depend heavily on their education and business partners to collect any type of data.

Data collection is a simpler task for programs directly operated by the intermediary because intermediary staff interact directly with students, teachers, or employers. Intermediaries that support school-to-career programming in schools (e.g., career academies, pathways) depend upon their school partners to provide data on the numbers of people involved—as well as the kind and intensity of involvement. The number of students benefiting from less structured, intermediary-supported activities (e.g., career centers and career fairs, business people coming into the classroom supporting the work of school-based school-to-career coordinators) is harder to capture and quantify. Students may participate in each of these efforts more than once. Moreover, matching activities to important

outcomes for students is no straightforward manner.

All of the intermediary organizations interviewed collect information on the numbers of different types of people or partners involved in their work. This type of data is important for reporting to funders as well as for providing a sense of the overall level of school-to-career programming put in place by the intermediary and its partners. Such data, especially if tracked over time, also gives an indication of the extent to which school-to-career interventions are growing within a community and “touching” more students, employers, schools, or teachers.

Many intermediaries use surveys and focus groups to gather feedback from their partners and “customers” on the school-to-career activities. “Customer satisfaction” surveys are a relatively quick and inexpensive way to get information on how such activities are being received and to get specific information on elements that need fine-tuning. Surveys can also provide data to report to funders: responses can be aggregated for findings such as “90 percent of the students who participated in a work internship felt the experience was worthwhile.” Many intermediary staff reported that feedback on the quality of their services and the support they offer to their partners is the most useful data to them in terms of improving the work they do.

Most commonly, intermediaries use short questionnaires to get feedback from students, employers, and teachers involved in workplace-based experiences, such as job shadows and internships. For example, the Pittsburgh Technology Council has developed an employer survey that asks for very specific feedback from employers participating in its Manufacturing Pathway Initiative to inform program adjustments. Intermediaries who do professional development for teachers or provide teaching resources also ask for feedback on their provision of these services and resources. To access Pittsburgh Technology Council’s survey, go to: www.intermediarynetwork.org.

A smaller number of intermediaries

reported using surveys and focus groups to get partner feedback on the general work and focus of the intermediary organization itself. Such feedback can be useful for assessing how well the organization is connecting and supporting its partners, as well as for eliciting feedback on whether to continue current activities and what new ideas to pursue. While intermediaries typically meet regularly with their partners, questions on how the partnership is doing can be more honestly answered when a neutral outsider facilitates a focus group or conducts a series of interviews. Intermediaries that have conducted surveys and focus groups report that the feedback is very useful for strategic planning. (See box, “Getting Feedback on How Well the Partnership is Working.”)

Strategies to consider when developing “customer satisfaction” surveys:

Surveys or questionnaires can also offer an opportunity for intermediaries to gather information that goes beyond feedback on a specific experience or activity. For example, questionnaires can include background ques-

Getting Feedback on How Well the Partnership is Working

The **Workplace Learning Connection** in Cedar Rapids, Iowa, hired a retired school-to-career coordinator to interview education partners. Using a structured questionnaire, the coordinator asked the partners about what activities they thought the Workplace Learning Connection should continue to do, stop doing, or start doing. Their level of participation in school-to-career activities (and how they rated them) was also documented. A few business partners were tapped to do a similar series of interviews with other business partners. To access the questionnaires, go to: www.intermediarynetwork.org.

MY TURN, Inc., in Brockton, Massachusetts, periodically holds breakfast focus groups with different groups of its partners. An outside facilitator runs these meetings. Partners are asked about their perceptions of MY TURN, what they liked and disliked about recent MY TURN activities, what the partners were interested in seeing MY TURN accomplish, and how MY TURN could better support and engage partners.

To help guide the focus of its future work, the **Tulare County, California, School-to-Career Office** is surveying its partners on the activities they think are most important to future school-to-career or business-education efforts. The questionnaire offers a range of work-based, school-based, and connecting activities to consider (and encourages partners to suggest new ones). To access the questionnaires, go to: www.intermediarynetwork.org.

tions on participants so intermediaries can better understand and describe who they serve. Questions can ask about how participants found out about the program and why they decided to participate. Such information can help inform marketing and outreach efforts.

Surveys can also ask participants how they think they will use the knowledge or experience they gained in the future. For example, Linking Learning to Life's post-internship survey for teachers asks about ways the experience might be translated to activities during the academic year and probes the likelihood that the teacher will use any of these methods or activities. The Workplace Learning Connection asks students who have participated in an internship whether they will

consider pursuing a career in the same field, whether they have listed the experience on scholarship or job applications (and if they think the internship experience has helped them achieve any of these goals), and if they would recommend the internship experience to a friend. *To access the survey instruments, go to: www.intermediarynetwork.org.*

Surveys can also assess needs or test out how people will respond to a new program or intervention. However, few of the intermediaries interviewed use surveys for needs assessment. Data collection on the front-end can help shape programming and professional development as well as help to make a case for a particular intervention. (See box, "Using Survey and Other Data for Needs Assessment Purposes.")

When developing customer-satisfaction questionnaires, intermediaries may want to phrase some questions in a close-ended format, with answer options that the respondent can check off. This makes it easier for the respondent to complete the questionnaire (which can lead to higher response rates) and for intermediary staff to tabulate and report results. When surveys include only open-ended questions, it can be difficult to aggregate the results for reporting findings and for assessing what participants have to say about the program.

SOME EFFORTS BEING MADE TO GATHER EVIDENCE ON THE IMPACT OF SCHOOL-TO-CAREER ON STUDENTS AND COMMUNITY

As discussed above, the pressure and desire are increasing to gather more evidence on whether school-to-career activities and interventions are making a difference, and what impact or contribution an intermediary makes in a community. Some Intermediary Network members have brought in outside evaluators to help them tackle these complex questions. This section highlights the experiences of four intermediaries in gathering and analyzing evidence on the impact of school-to-career and their activities.

Using Survey and Other Data for Needs Assessment Purposes

Pittsburgh Technology Council: As a first step in creating a professional development effort on information technology literacy, the Pittsburgh Technology Council surveyed teachers about what they were doing with information technology in their classes and about their comfort level with the IT skills standards identified by employers as important for all workers. The council used this assessment to determine what information technology-related course each teacher should take at the University of Pittsburgh, as well as the focus of additional workshops. A post-assessment survey is planned to see if teachers have changed the extent to which they incorporate IT into the classroom.

In an effort to document what schools were doing and how that compared to what employers need, the council arranged for large-scale testing of a random sample of seniors in the nine-county region where it targets its programs. Students took the WorkKeys test developed by ACT to assess foundational skill areas using criteria identified by employers (e.g., reading for information, applied math, graphic interpretation). When the results were compared to a national profile of what people need for sustainable employment, 40 percent of the students were found to have limited skills to the point that they would have little job mobility.

Tulare County Workforce Coalition: Randy Wallace from Tulare County believes that "data helps to generate conversations." He is using focus groups and surveys with students to find out what makes a difference in young people's learning. This effort will enable the Tulare County Workforce Coalition to compare responses and experiences of students in the career pathways and academies they support to those of students who are not in special career-related programs. The intermediary is also looking beyond this comparison to see what kinds of opportunities and experiences help to motivate and direct young people. This information will inform both the intermediary's and the school districts' programming.

Tulare County Workforce Coalition, Visalia, California: The Tulare County Workforce Coalition has worked in partnership with an outside evaluator and several school districts to evaluate well-defined school-to-career initiatives. These evaluation efforts strive to find evidence that school-to-career is resulting in positive effects on students and to gain insight on what makes a difference in young people's learning. The evaluation work utilizes school records data on attendance, GPA, test scores, dropout rates, and transition to further education or careers after graduating from high school. Outcomes for students in more intensive school-to-career activities (such as Career Academies) are compared to those of the general school population, and changes in outcome indicators over time are examined for the whole school population. In addition, evaluators field a survey to a broad sample of students that includes both Academy and non-Academy participants, and responses for the two groups are compared. Focus groups are also held with a mix of students.

A recent analysis of the impact of school-to-career activity in Golden West High School found an increase in positive outcomes for Career Academy and Pathway participants relative to the general school population.³ Pathway and Academy completers experienced a 6.6 percent increase in GPA compared to overall student GPAs during the same period. Compared to the general school population, Health Career Academy completers were 47 percent more likely to have interned or worked in a field related to their area of interest and 30 percent more likely to plan to pursue a college degree (based on self-reported data). Several positive trends in the overall school population's test scores, retention rate, and community college transition rate were also found.

Philadelphia Youth Network, Philadelphia, Pennsylvania: The Philadelphia Youth Network started as an in-district school-to-career/education reform office. Until it became independent of the school district, it

was well-positioned to access school records data to assess the impact of school-to-career activities on participating students and schools at large. Over the years, the Philadelphia Youth Network has done a number of evaluations directly and brought in the assistance of outside evaluators. It found that academic performance, test scores, and graduation rates improved across the district as school-to-career and other education reform efforts were more fully implemented (although results could not be solely attributed to school-to-career interventions). A study by an outside evaluator examined school performance outcomes in four high schools and found some positive changes associated with school-to-career participation.

Structured work-based learning experiences have been a major component of school-to-career activities in Philadelphia. Several studies have been conducted on the impact of work-based learning and all found positive effects.⁴ One study by an outside evaluator compared participants in work-based learning to non-participants who were also deemed "work-ready" at four high schools. The analysis found that participation in work-based learning significantly improved GPAs and attendance. (The analysis controlled for the influence of prior grades, attendance, year in school, and school attended.) Longer participation in work-based learning had more significant, positive effects than shorter participation.

The school district also analyzed school records data for work-based learning participants compared to similar data for their non-participating peers citywide. This analysis showed higher attendance and graduation rates, lower dropout rates, and better grades for participants in work-based learning. These positive results held true when the scope of analysis was narrowed to only those students in small learning communities who had similar grades and attendance at the time they entered a small learning community. (Another study, examining the impact of work-based learning participation, was conducted via a

telephone survey of recent alumni and is described below.)

Business/Education Expectations, Kansas City, Missouri:

The BE²: School-to-Career Partnership is a bi-state organization managed by the Learning Exchange. Early in 1999, the partnership decided to undertake an extensive, 30-month evaluation effort to examine the support for school-to-career in the Greater Kansas City metropolitan area, establish the organization's credibility as a driving force in building school-to-career, and attain evidence for its sustainability. The evaluation sought to address two major questions: What is the worth of school-to-career as a school reform intervention? And what is the worth or usefulness of the BE²: School-to-Career Partnership as a mechanism in supporting the development and growth of school-to-career?

The evaluation essentially involved four separate studies designed to address different pieces of these questions. Surveys, interviews, focus groups, and an analysis of school records data (for high school students only) were used to look at how schools were implementing school-to-career activities and the impact of school-to-career on young people. Telephone interviews with employers, parents, and educators were used to capture the perceptions of stakeholders concerning school-to-career generally. Interviews with partnership staff, board members, and functional team leaders were conducted, along with surveys of the board and functional team members to collect information on the operations of the partnership and its contribution to the development and growth of school-to-career in the Kansas City area.

Findings from the evaluation are summarized below.⁵

- *The Worth of School-to-Career-Related Activities (Impact on Students):* In analyzing the survey and school records data for high school students, evaluators grouped students by whether they were more or less active in school-to-career activities (based on their survey responses). For the full sample of high

school students, no statistically significant relationships were found between school-to-career participation and any of the six indicators of school outcomes examined. In one high school, evaluators found that levels of school-to-career participation related positively to postsecondary plans, GPA, attendance, and the students' rating of school effectiveness in school-to-career areas.

Students' level of school-to-career participation related to how they felt about their schools' effectiveness in areas associated with school-to-career. The evaluators concluded that certain conditions—having to do with the integration of school-to-career activities within a school, the depth and breadth of implementation, and staff buy-in—may contribute to the impact of school-to-career. These findings suggest that greater impact may be seen when school-to-career activities and approaches are more fully implemented.

At the middle school and elementary school levels, evaluators found that staff rarely separated school-to-career from other school practices. However, teachers and administrators believed that school-to-career activities helped make school relevant, motivated young people to finish school, and taught behaviors necessary for adult success.

- *Worth or usefulness of the BE²: School-to-Career Partnership:* The evaluators found that BE²: STCP had helped to create a "school-to-career presence" in the bi-state region that provided visibility, support, and advocacy for school-to-career. The intermediary was found to facilitate communication between the business and education communities and to provide a regional infrastructure for linking people concerned about the education and development of youth. The intermediary also increased grant success for school-to-career programs (both for its parent organization and local schools and partnerships) and provided legitimacy for the Learning Exchange's involvement in other initiatives (such as workforce development).

UNITE-LA, Los Angeles, California: Given the very large district within which it works, UNITE-LA has sought from the beginning to have a systematic view of both its work and of evaluations of that work. With over 725,000 students in the LA Unified K-12 system, the intermediary's priority has been to involve as many people as possible in school-to-career, rather than to focus all its resources on implementing a few school-to-career activities on a significant scale.

UNITE-LA's overarching goal has significant implications for measuring the impact of its work. The intermediary has an ongoing, multi-year, external evaluation that aims to assess system building efforts largely in terms of growth in participation and knowledge of school-to-career, and that examines whether this growth can be attributed to UNITE-LA. In addition, the evaluators are also addressing the question of whether school-to-career makes a difference by assessing the impact of Career Academy participation on school performance outcomes.⁶

Multi-phase surveys have been used as one strategy for assessing growth in school-to-career participation. Evaluators began by surveying a large sample of seniors during the 1998-99 school year to establish a baseline of the frequency and intensity of school-to-career involvement and to capture student perceptions of school-to-career activities. A follow-up survey administered to a sample of seniors in spring 2001 examined the extent of growth in activities. A comparison of results from the two surveys found few large differences in student responses. However, there were small increases in the percentage of seniors who had participated in work internships, job shadows, and Career Academies, and a larger increase (12 percent) in the proportion of students who had participated in service learning.

An effort was also made to analyze the impact of UNITE-LA's grant funding in local areas within the district. Interviews and surveys asked educators and business partners about their level of involvement in UNITE-LA activities, whether they had received grant

money, and what they thought about UNITE-LA events and campaigns. The questions tried to explore the extent to which people attributed school-to-career activities to UNITE-LA, but evaluators found less attribution to UNITE-LA than the intermediary expected. This result may reflect the large number of factors that contribute to change within a school and the fact that many people may feel ownership over helping to create something new.

Two evaluations of the Academy model have been undertaken in an effort to assess the impact of a more intensive school-to-career initiative on academic outcomes. An early evaluation compared school performance outcomes for participants in five Academies to those for other students in the same schools. This study found that Academy students were somewhat more likely to enroll in higher-level math classes and had somewhat better attendance rates and lower dropout rates than their non-Academy peers.

A second evaluation of the Academy approach used a more rigorous, matched-comparison-group design that compared the performance of Academy students to demographically similar LAUSD students not participating in school-to-career programs while in high school. (Statistical modeling was used to "control" for factors that may have an impact on student achievement apart from school-to-career participation.) Survey data revealed that Academy participants were more likely to aspire to postsecondary education and to enroll in postsecondary education once they graduated than non-Academy students. Eleventh-grade Academy students were also more likely to pass Algebra II (or a similar high-level math course), which is required for admission to the California State or University of California systems. This recently completed evaluation found that Academy students achieved slightly higher standardized test scores in reading and, to a lesser extent, in social studies than their non-Academy counterparts. No systematic differences in test scores were found for other areas of the Stanford 9 exam. There were no

statistically significant differences between Academy and non-Academy students on attendance or grade point average.⁷

PITFALLS AND CONTINUING CHALLENGES IN EVALUATING THE WORK OF SCHOOL-TO-CAREER INTERMEDIARIES

Caution and patience are needed when looking at changes in school performance indicators for school-to-career participants.

There is a great deal of interest on the part of funders, educators, business partners, and intermediaries in having evidence on whether school-to-career activities and interventions make a difference in how young people do in school and prepare for their future. Schools routinely collect data on attendance, grade point average, standardized test scores, dropout and graduation rates, and the academic level of courses taken, and this information can be analyzed to assess the impact of school-to-career participation.

However, such an analysis has to be carefully designed. A major caution echoed by several intermediary directors is not to expect significant behavior change from minimal intervention. Therefore, an initial step in analyzing school outcomes is to determine the school-to-career intervention or level of participation that would be intensive enough to

yield a measurable impact on students' school performance. If less-intensive interventions are examined, the analysis will likely conclude—inaccurately—that the school-to-career activities made no impact because no changes will be seen in student performance. An impact on students' level of interest or motivation may exist but not yet to the point it affects school performance.⁸ As a director pointed out, one or two job shadowing experiences will not change students' grades or attendance. Several intermediaries who have examined school outcome indicators for school-to-career participants reported finding more positive differences for students who were more involved in these activities. (See box, "Assessing Whether a School-to-Career Intervention is Intensive Enough to Impact School Performance.")

How much school-to-career participation or intervention is enough to warrant changes in school outcome indicators? No one has a definitive answer, and identifying the students who have had the more intensive experiences can be challenging. The Boston Private Industry Council and the Philadelphia Youth Network have learned firsthand that developing strategies for identifying individual students based on their level of school-to-career involvement can require significant investment from and close work with the school district's data or evaluation office.

Involvement in a specific program is sometimes used as a way to identify students who have had (or are likely to have had) more intensive school-to-career experiences. UNITE-LA's evaluators have used Career Academy participation as a proxy for intensive school-to-career involvement. In a case study of 15 high schools, their evaluators also separated the high schools into "high implementation" and "other" school-to-career categories based on the level of school-to-career programming within the school. Linking Learning to Life is preparing to examine school outcome indicators for students in specific interventions that are more intensive (e.g., supportive employment, a vocational rehab program) rather than look at students

Assessing Whether a School-to-Career Intervention is Intensive Enough to Impact School Performance

Randy Wallace with the **Tulare County Workforce Coalition** suggests that school-to-career intermediaries assess school performance indicators for interventions that provide youth with three or more significant experiences that go beyond their day-to-day interaction with a classroom teacher and peers. Such experiences can include work internships, student government, community/service learning, academy leadership team, and other leadership opportunities. Based on his organization's evaluations and findings from other student surveys, he believes that opportunities such as these make young people more optimistic and motivated to learn and help to make them better decision-makers. Career Academies and other efforts to create smaller groups within high schools enable more students to participate in such leadership roles and opportunities for learning outside of school.

who may have experienced one or more job shadow, work internship, or other community-based learning opportunity.

"Compared to who?" is another major issue in framing an analysis of school outcome indicators. Some intermediaries have found positive changes over time in school-wide attendance and graduation rates, test scores, dropout rates, and GPA. The downside to this approach is that any positive impact of school-to-career activities is likely to be diluted when examining a school's entire student body, given the wide range in school-to-career participation levels. In addition, there is no way to separate out the impact of school-to-career interventions from other simultaneous events and factors, such as reform efforts and changes in administration.⁹

Some of the same concerns hold true for evaluation efforts that look at changes in attendance, dropout rate, behavior issues, grades, etc. for a group of participants in a specific school-to-career intervention. It is not possible to attribute any positive changes to the intervention alone: schools are very fluid settings, with many factors typically changing at the same time. However, positive changes can be used to promote the promise of school-to-career and inform the community that school outcomes are improving as part of the reform efforts in a school or district—as long as the audience is aware that no single effort deserves all the credit for creating the change.

Matched-comparison groups of students in the school who are not participating in the school-to-career initiative can help isolate the impact of an initiative on participants' school outcomes. Some effort is made to control for demographics and entering academic levels, making this a better approach than comparing Academy participants, for example, to the entire remaining school population. However, matched-comparison groups are tricky: students who choose to participate in more intensive school-to-career activities differ, by definition, from those who do not choose to participate. Motivation is hard to measure and control for.¹⁰

School-to-career interventions also need to be in place long enough to be fully implemented before their impact is evaluated. In the first year or two of implementing a new Academy or other school-to-career intervention, often some pieces are not yet in place, limiting the power of the intervention.

A final challenge in using school records to assess the impact of school-to-career on student performance is getting the data. While schools routinely collect performance and outcome data on all students and they are partners in the school-to-career efforts being evaluated, getting data in a useable form is often a difficult task that takes a lot of time. School districts need to be prepared to commit resources for the data entry and programming required to identify students participating in the school-to-career intervention, work with evaluators to create an appropriate comparison group (if this approach is being used), and pull out the appropriate students' records in a format useable for statistical analysis. Evaluation efforts often get delayed during this stage of data negotiation and manipulation.

Intermediaries may want to consider strategies for building the capacity of school districts to analyze school records data themselves. As described above, the Tulare County Workforce Coalition in California has been working with an outside evaluator and the school districts with which the coalition partners to conduct some analysis of school performance outcomes. Through this work, the coalition is hoping to build the districts' capacity to analyze the impact of different initiatives. One district involved in a recent evaluation effort plans to continue an analysis that an evaluator started.

Assessing the impact of school-to-career intermediaries on the "community" and their success in "system building" is also challenging because it is difficult to figure out what to measure.

While school records are often the source for assessing the impact of school-to-career on young people, the intermediary's impact on

the community or its effectiveness in system building are much harder to address because there is no clear source of information or evidence to answer this question. Several intermediaries have made an effort to document the extent to which "school-to-career" systems have been put into place and the role of their organizations in creating and supporting these systems. The first question has been easier to obtain "hard" evidence on than the latter.

The type of "system building" evidence that intermediaries have looked at includes trends in partner and student participation, greater awareness of school-to-career, and funding sustainability. Questions that have been examined include:

- To what extent have the numbers of participating students, teachers, and employers increased? What is the "repeat customer" rate? In other words, do participants of all types choose to participate again in the same or some other school-to-career activity?
- Are key players—such as district superintendents and major employers—at the partner "table" and do they remain involved?
- Has the intermediary secured additional external resources to diversify its funding base? Is local financial support for the intermediary's work growing?
- To what extent have education partners implemented policies and resource decisions that support school-to-career?
- Are there overall improvements in attendance, graduation rates, and academic performance in the district or specifically targeted schools (with recognition that school-to-career may be one of several factors contributing to change)?
- Because of the activities of the intermediary, has local awareness grown about school-to-career and how school-to-career can benefit young people?
- Have federal, state, and local categorical programs providing education and training services to youth in the community begun working in a more coordinated fashion?

A smaller number of intermediaries have used surveys and focus groups to get feedback

from partners on perceptions of the intermediary's contribution to the community. Such surveys tend to ask about the extent to which the intermediary has created linkages, whether these have helped build partners' capacity, and whether having a regional partnership is helpful to creating greater connections among youth, youth-serving organizations, employers, and schools. These are difficult questions to phrase in such a way that there is confidence that a variety of partners will understand the question in the same way. The BE²: School-to-Career Partnership in Kansas City has done surveying along these lines. *To access some survey instruments used in the BE² evaluation, go to: www.intermediarnetwork.org.*

Attribution of the existence and growth of school-to-career activities to an intermediary has been difficult to demonstrate. A major issue is defining school-to-career activities or interventions as separate from other efforts going on within schools. Even when this is feasible, an intermediary's role in helping start or support an activity or program is not always clear to participants. Survey efforts undertaken as part of evaluations in both Kansas City and Los Angeles found a relatively small percentage of respondents either aware of the intermediary or attributing specific activities to the intermediary (although respondents often recognized the importance of school-to-career activities).

This is not surprising considering that individual schools play a significant role in what actually gets put into place, and school-to-career activities are often merged with other initiatives. Some school-to-career activities fit with good educational approaches and school reform efforts, and are not necessarily labeled as a "school-to-career intervention." Students would likely not be aware of an intermediary's role unless the organization's staff were directly involved in administering the program. This also holds true to some extent for participating teachers and employers. Schools may get most of the credit for a school-to-career intervention if the program runs out of the school, which is generally the case.

Intermediaries are also interested in knowing whether they are choosing the most powerful interventions or activities for investing their energies and resources. What type of data is available to determine whether the initiative an intermediary has adopted has had a bigger or better impact than another option?

Despite the difficulty in demonstrating whether "system building" is occurring, it is important to identify outcomes consistent with the goal of system change. If these are taken off the table, evaluation efforts will likely focus on the impact of school-to-career activities on young people's school performance and behavior. While these are important goals, if they are the only objectives, the focus of the work could shift solely to making immediate changes on a small number of students and not on system and capacity building. To repeat what Richard Tulikangas of Linking Learning to Life says, "What gets measured, gets done."

There is a universal desire for longer-term follow-up on what happens to youth after high school—but who should track this type of data?

Many intermediary staff members expressed a desire for longer-term follow up on students who participate in school-to-career activities during high school. Intermediaries, their funders, and partners all want to know whether these young people transition to postsecondary education, if the focus of their postsecondary studies relates to earlier school-to-career activities, whether they complete college, and if they transition into employment in a related career area. However, no single institution is the most logical or best-positioned choice to do this type of follow-up. While high school guidance counselors usually know about a student's plans to attend college at the time of graduation, school districts do not typically track students to confirm that they actually enrolled, what they majored in, or whether they graduated. Colleges track their own students while they are enrolled, but they do not typically report back to high schools.

Tracking people over time to gather either self-reported information or data col-

lected by another institution (such as a college) can be expensive and difficult, especially when young people disperse widely to attend colleges beyond their home area. Given the cost and the absence of a single organization or institution identified as responsible for this type of data, longer-term data collection remains on a "wish list" in most communities.

Additional resources and greater capacity for data collection are needed before longer-term follow-up data can be more widely used as evidence of the impact of school-to-career. A few Intermediary Network members have undertaken small-scale follow-up efforts that offer some strategies for doing longer-term follow-up. (See box, "Efforts to Do Longer-Term Follow-Up.")

Unemployment Insurance data is a resource that can be used to look at specific groups of people to determine the extent to which they are employed, what sector they are employed in, and the average salary/wage. This data is reported to state governments by all employers for the purposes of determining unemployment benefits. As such, it is a powerful resource for post-program follow-up concerning employment. However, accessing the data requires the collection of individuals' Social Security numbers and state cooperation for accessing usable data. These conditions are not typically easily met.

The Philadelphia Youth Network is working on a plan to use Unemployment Insurance data to gather post-program employment information for its work-based learning participants. These efforts have been facilitated by PYN's access to data as the fiscal and administrative entity for Workforce Investment Act youth monies in the Philadelphia area. PYN will piggy-back this effort on a longitudinal study being done by the School District of Philadelphia, the Philadelphia Education Fund, and the University of Pennsylvania.

Intermediaries find it challenging to identify hard benefits to employers beyond the "feel-good stuff."

The lack of long-term follow-up makes it very difficult for intermediaries to demonstrate

direct, tangible benefits to participating employers beyond the general “feel good” benefit of contributing to the community and helping young people. Without tracking school-to-career participants beyond the end of high school or the beginning of college, it is very hard to demonstrate whether employers gain a larger, more qualified pool of applicants as a result of school-to-career. Unemployment Insurance data is a resource for tracking whether young people end up working in a field to which they were exposed through school-to-career activities, but, as discussed above, it has not been used to any great degree.

In intensive youth apprenticeship programs, such as those overseen by the Fox Cities Alliance for Education in Appleton, Wisconsin, intermediary staff know whether participating employers have hired students who were in the youth apprenticeship programs. Since the number of participating students and employers is relatively small, it is easy for intermediary staff to obtain this information and use it to demonstrate direct benefits

when recruiting new employers.

Rip Rowen from the Capital Area Training Foundation in Austin, Texas, suggests expanding this type of data collection effort, and asking employers to collect information on whether the young people they hire have been involved in school-to-career activities. He hopes to encourage business partners to ask the young people they hire whether they have participated in a work-based learning experience in the industry, became familiar with the career area by participating in an Academy, or found out about the employer through career exploration, job fair, or job shadowing. If employers’ capacity to collect this type of information could be developed, it would provide some data on benefits to employers and young people.

Evidence gathering and evaluation can require staff and resources that school-to-career intermediaries do not always have, but some have found inexpensive ways to get help with evaluation.

Collecting data and analyzing evidence beyond tracking the numbers of partners and participants requires a level of staffing that intermediaries often lack. BaySCAN, which regularly convenes school-to-career partnership and intermediary directors in the Bay Area of California, reports that the desire for evaluation and assessment comes up all the time in meetings, but the capacity to pursue information and evidence lags significantly behind the desire to have it. BaySCAN could easily work with partnerships to develop an agreed-upon list of important indicators to collect information on, but no one had the staff or money to regularly gather the data.

This lack of staff power is one of the reasons why it can be difficult to get evidence gathering towards the top of an organization’s “to-do” list. Consequently, intermediaries sometimes hire an outside evaluator with expertise in data collection and evidence who can devote attention to evidence gathering. However, such evaluations can be expensive.

Some intermediaries have found ways to get outside evaluation help cheaply. As noted

Efforts to Do Longer-Term Follow-Up

The **Workplace Learning Connection** in Cedar Rapids, Iowa, is working with the local community college to analyze the extent to which school-to-career participants continue to postsecondary education related to their school-to-career activities. The community college is analyzing which students participated in school-to-career activities while in high school and whether there is a connection between a student’s focus of study and the career or work-related activities he or she did in high school. The Workplace Learning Connection hopes to reach out to additional students who attend other colleges through their last known address.

The **Philadelphia Youth Network** hired an opinion research firm to do a telephone survey of recent graduates, including students who had participated in work-based learning and alumni who had not. (Students were called during the October after their graduation.) Youth who had participated in work-based learning were more likely to be working in their chosen career area and more positive about how their school experience prepared them for the world of work than their peers who had not participated in work-based learning. The **Boston Private Industry Council** does a follow-up survey with Boston Public School graduates in the fall after graduation to find out the extent to which students are in college and are working in their chosen field.

above, MY TURN has successfully tapped into sociology departments at local colleges and universities to find inexpensive evaluators. Most of these evaluators are graduate students (and sometimes professors) who are looking for real world programs to evaluate. This approach has enabled her to have an outside evaluation for many of MY TURN's programs.

The Tulare County Workforce Coalition has worked in partnership with an outside evaluator to help keep evaluation costs down. The coalition takes the lead in negotiating with school districts for data access, and it works with the evaluator and district to determine how the data should be analyzed. The evaluation work is also limited to those school districts that have the capacity to provide school records data and focuses on data that the schools already collect (although surveys and focus groups supplement the school records analysis).

Several intermediaries have also found cost-reducing opportunities to "piggy-back" evidence gathering that they want onto other efforts being done in the community or by the state.

As noted earlier, "customer satisfaction" surveys completed by teachers, students, and employers are relatively easy to develop and administer. Intermediary staff report that this type of feedback provides useful information for continuous improvement efforts.¹¹ The experience of Network members suggests that this type of evidence gathering could be done by all school-to-career intermediaries and would be worth the investment of staff time.

CONCLUSION

Evaluations of school-to-career initiatives and the contribution of intermediaries have two major goals: obtaining data to inform improvement and securing support and recognition for promising practices and good performance. Designing and carrying out such evaluations is a significant technical challenge—and also a political one. School-to-career intermediaries need to be strategic about the

design, timing, and focus of data collection and evaluation efforts. Too often, intermediaries and their funders and partners want to see too much, too soon. The expected outcome has to match the intensity of change or "input" the young people have experienced. Looking for impacts on students' school performance indicators before school-to-career interventions are fully implemented or for students with less-intensive school-to-career experiences is a set-up for failure.

In considering data collection and evaluation efforts, intermediaries need to match their ambition to their resources and assess where the best opportunities are for using data to build local support and alliances. It is critical to define the purpose and the audience for the evaluation work before going too far into the design process. Careful planning will avoid either over-designing or under-planning for the cost and complexity of evaluation work. Tracking growth in the types of school-to-career interventions offered and the level of participation provides credible evidence on system building and community support. "Customer satisfaction" surveys of participating students, teachers, and employers can provide good feedback and useable evidence as new activities are put into place and fine-tuned. For those with the resources, assessment of the impact of school-to-career participation on school performance outcomes and community "impact" can be carefully done for mature, intensive interventions.

It is clear that school-to-career intermediaries and their funders and partners value evidence on the nature and worth of what is being done. Intermediaries that do not collect data and evidence can put themselves in a vulnerable position. While the technical and political challenges of evaluation can seem daunting, intermediaries need to look toward building evaluation efforts as they build a school-to-career system. The goal should be to design and implement a data collection and evaluation effort that will be useful, credible, and doable, given the nature of local school-to-career efforts.

APPENDIX

Youth, District/School, and Employer Participation in School-to-Career Activities of School-to-Career Intermediaries

Intermediary Organization	Number of Youth, Schools, and Employers Participating in School-to-Career Activities
Business/Education Expectations (BE2) Kansas City, MO	<p><i>Youth Served:</i> 9,754 directly served (typically involved in a variety of career awareness activities in school and connected to the community) 1,335 brokered placements for job shadows, internships, workplace tours, and apprenticeships</p> <p><i>Participating Districts/Schools:</i> 65 school districts in two states (primarily in 9 counties with 56 districts); work with 16 high schools, some middle schools, and at the elementary level 192 teachers from 36 high schools placed in summer externships or business rotations</p> <p><i>Participating Employers:</i> 221 active (defined as hosting job shadows or field trips, and/or participating in career fairs, mock interviews, or workplace tours); 64 employers (some also counted above) hosted teacher externships</p>
Capital Area Training Foundation Austin, TX	<p><i>Youth Served:</i> 450 students directly placed into summer youth program involving work placements (additional 2,150 indirectly placed) 1,000 students in job shadows (mostly indirectly placed) Employer/career-related speakers reach students in 500 classes</p> <p><i>Participating Districts/Schools:</i> 14 school districts and 30 schools (mostly high schools) within these districts (half the schools are deeply engaged) 150 teachers participated in summer externships or institutes</p> <p><i>Participating Employers:</i> 400 active employers (defined as those who participate in one or more of the following: internships and rotations, career awareness (speakers, job shadows, and tours), educator professional development, and/or involvement in industry clusters</p> <p><i>(Numbers are approximations)</i></p>
Fox Cities Alliance for Education Appleton, WI	<p><i>Youth Served:</i> 20,677 student contacts (includes double counts if youth participated in more than one activity/service; most contact is through in-school presentations, use of intermediary-developed resources, and visits to Career Exploration Center) Total includes 805 students in job shadows and 60 students in youth apprenticeship programs</p> <p><i>Districts/Schools participating:</i> 9 districts, working with 11 high schools and some middle and elementary schools</p> <p><i>Participating Employers:</i> 325 have participated at varying levels; 51 training students as part of youth apprenticeship and certified co-op program</p>
Linking Learning to Life Burlington, VT	<p><i>Youth Served:</i> 2,500 student contacts (includes double counts if youth participated in more than one activity/service; most contact involved career exploration activities) Total includes: 485 in job shadows, 135 career worksite visits and tours, 40 in work-based learning experiences, and 120 special education students in a vocational rehab program</p> <p><i>Districts/Schools Participating:</i> 1 district with 6 elementary, 2 middle, and 1 high school, plus 1 regional tech center and a couple of alternative programs</p> <p><i>Participating Employers:</i> 253 involved in community-based experiences (employers to schools and youth to employers); 50 involved with vocational rehab program (some double counting)</p>

MetroVision School-to-Career Partnership

New Orleans, LA

Youth Served:

4,782 job shadows

142 internships (connected to Academies)

Indirect services to students in 118 Academies/Career Clusters that MetroVision has helped to put into place and 789 students served by out-of-school youth consortia (42 partners)

Participating Schools/Districts:

Work with a total of 7 school districts and 36 high schools and 14 middle schools within these districts

Working with 13 high schools on Academy implementation and whole school change

91 teachers in internships (over 200 a year in previous years)

Participating Employers: 462 hosted job shadows or internships and/or participated in career-related activities in schools

Middle Rio Grande Business and Education Collaborative

Albuquerque, NM

Youth Served:

100 students placed in job shadows and 500 indirect placements

1,500 students participated in regional career fair leading to direct and indirect placements and 1,020 students working with PathFinder software to identify placements

Participating Schools/Districts:

Work with 10 school districts, which include 30 high schools, an alternative high school, and 45 middle schools; most work at the high school level with some PathFinder connection work at the middle school level

200 teachers in work-based experiences

140 teachers involved in Web-based training and professional development activities

Participating Employers: 300 directly active employers, plus another 800 involved in career and hiring fairs, indirect job shadow placements, conferences, etc.

MYTURN, Inc.

Brockton, MA

Youth Served: 9,800

Participating Schools: 7 high schools

Participating Employers: 180 active employers (defined as involved in job shadows, internships, guest speakers)

Philadelphia Youth Network

Philadelphia, PA

Youth Served:

1,116 direct placements in work-based learning and subsidized and unsubsidized employment

1,500 students in job shadows

6,192 brokered placements/services (includes WIA-funded after-school and summer academic enrichment and work experience)

Participating Districts/Schools:

Work with all the schools in one large school district (total of 44 high schools, plus some middle and elementary schools) plus Archdiocesan, private, and charter schools

1,200 teachers involved in professional development, service learning, integrating education into workplace experiences (some are advisors to brokered programs)

Participating Employers: 529 active employers (defined as those who provide work-based experiences for youth and partners who help to set policy); does not include employers involved only in job shadow day

Pittsburgh Technology Council

Pittsburgh, PA

Youth Served:

2,000 indirect placements in a range of work-based learning experiences

23 students in Manufacturing Pathways Initiative internships (slated to greatly increase in summer 2002)

Districts/Schools Participating:

Work with a total of 13 counties, with about 150 districts; direct school-to-career programmatic efforts targeted at 9 counties; work primarily at the high school level

3 districts and 1 vocational/technical school participating in MPI, with hope to expand to 65 districts and 12 voc tech

One district and 110 teachers participating in information technology literacy professional development effort, which will be expanded to 10 districts in 2002-03

Participating Employers: 10 in MPI, with plan for 200; 20 on steering committee; 1,600 employers involved with council's capacity as a trade association

Tulare County Workforce Coalition Tulare County Office of Education Visalia, CA	<p><i>Youth Served:</i></p> <p>7,455 contacted directly (events, targeted projects)</p> <p>17,545 students received information and assistance through classroom and program materials and support</p> <p><i>Participating Districts/Schools:</i> 9 districts, with 19 comprehensive high schools within these districts</p> <p><i>Participating Employers:</i> 955.</p>
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UNITE-LA Los Angeles, CA	<p><i>Youth Served:</i></p> <p>400 directly placed into internships and additional 1,300 indirectly placed</p> <p>8,000 students in job shadows</p> <p>13,000 students visited college campuses as part of college campaign</p> <p>Estimated 25-50% of youth in the LA Unified School district touched in some way by intermediary facilitators working with local areas (sub-districts) within the district</p> <p><i>Participating Districts/Schools:</i></p> <p>One very large school district: LA Unified School District, with 725,000 students in K-12 system</p> <p>Help to support 65 Career Academies, with about 10,000 students</p> <p>Placed 600 educators in externships last winter, with over 1,000 involved in different activities</p> <p>60 principals were executives for a day; about 85 business people were principal for the day</p> <p><i>Participating Employers:</i></p> <p>1,000 businesses involved in some capacity</p>
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The Workplace Learning Connection Cedar Rapids, IA	<p><i>Youth Served:</i></p> <p>1,915 job shadows</p> <p>150 (unpaid) internships</p> <p>24 middle school students in career explorer camp</p> <p><i>Districts/Schools Participating:</i></p> <p>33 districts, including 45 high schools and a total of 60,000 students in K-12 (WLC does some work at middle and elementary level)</p> <p>50 teachers placed in summer externships</p> <p><i>Participating Employers:</i> 700</p> <p>(tours of business by educators and youth not included in these numbers)</p>
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Note: Information was collected for a one-year time period (usually the 2000-2001 school year). Staff of the Bay Area School-to-Career Action Network (BaySCAN) were also interviewed, but the organization operates like an intermediary for intermediaries. It does not collect data on the numbers of youth, schools, and employers participating in BaySCAN activities. Interviews were conducted with staff members at all the organizations in this chart except the Middle Rio Grande Business and Education Collaborative.

NOTES

¹ The Intermediary Network began in 1998 with 25 members, with 25 more joining since then.

² These tools are available at www.intermediarynetwork.org or by contacting New Ways to Work.

³ These findings come from *Making a Difference: School-to-Career Evaluation*, Tulare County Office of Education, May 2001. The analysis did not control for pre-participation differences between Academy students and the general student population.

⁴ Summary of findings taken from "The Positive Effects of Work-Based Learning in Philadelphia," prepared by the Philadelphia Youth Network.

⁵ Summary findings taken from *Conclusions from the BE²: STCP Evaluation Study*, by Jacob Blasczyk, University of Wisconsin-Madison, Center on Education and Work, February 2001.

⁶ Information for this summary comes from *UNITE-LA STC Evaluation: Year 3 Interim Report* (revised) by Public Works, October 2001 and the Executive Summary of the 1999-2000 Academy Study (also by Public Works, Inc.). The evaluation of school-to-career in the LA Unified district is extensive, complex, and now tied in part to the evaluation of school-to-career in California. Only part of the evaluation effort is summarized here.

⁷ Summary findings taken from *Evaluation of the UNITE-LA School-to-Career Partnership: PLUS Evaluation of LAUSD Career Academies*, prepared by Public Works, Inc., March 2002.

⁸ This is one reason to include surveys along with any analysis of school outcome indicators. Surveys can help capture self-reported changes in motivation and level of interest even if no impact on attendance or grades can be seen yet.

⁹ The student body also changes over time, so positive or negative findings may reflect a different group of students rather than any changes in what is happening in the school.

¹⁰ An experimental design that randomly assigns students who apply to participate to either the school-to-career intervention or a "control" group that does not receive the intervention is the cleanest way to create a true comparison group, but random assignment experiments are rarely done in school settings. An exception is the Manpower Demonstration Research Corporation's Career Academy evaluation currently underway in nine schools across the country. In a March 2000 report on the evaluation, MDRC noted that the Career Academies substantially improved high school outcomes among students at high risk of dropping out, and, among students least likely to drop out, the Career Academies increased the likelihood of graduating on time. The Career Academies were not found to improve students' standardized math and reading achievement test scores.

¹¹ Given a good facilitator, focus groups are relatively easy to do and can provide useful information.

The School-to-Work Intermediary Project

The School-to-Work Intermediary Project is designed to strengthen and raise the public profile of local organizations that connect schools, workplaces, and other community resources.

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